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- 5 An amplifier arrangement comprising:
- an input node;
 - an output node;
 - a plurality of amplifiers connected in respective parallel paths extending between the input node and the output node;
 - the input node dividing an input signal into signal parts and feeding the signal parts along respective paths to the output node; and
 - 10 - the paths having equal propagation delays for the signal parts, to provide at the output node an output signal comprising a summation of the signal parts.
- 15 2. An amplifier arrangement as claimed in claim 1 comprising a first transmission medium having one end and an opposite end and a second transmission medium having one end and an opposite end, wherein the input node is provided towards the one end of the first transmission medium, wherein the output node is provided towards the opposite end of the second transmission medium and wherein the
- 20 parallel paths extend between the first transmission medium and the second transmission medium.
3. An amplifier arrangement as claimed in claim 2 wherein a spacing between one of said parallel paths and an adjacent parallel path on the

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first transmission medium is equal to a spacing between the one path and the adjacent path on the second transmission medium.

4. An amplifier arrangement as claimed in any one of claims 2 and 3 wherein termination means is provided at the opposite end of the first transmission medium and at the one end of the second transmission medium.

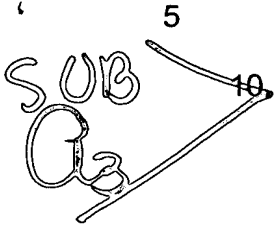
5. An amplifier arrangement as claimed in claim 3 or claim 4 for amplifying a pulse having a pulse width and wherein the spacing is larger than a distance through which the pulse would travel through the medium in a time equal to the pulse width.

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6. An amplifier arrangement as claimed in any one of claims 2 to 5 wherein one of the first transmission medium and the second transmission medium comprises a transmission line.

7. An amplifier arrangement as claimed in claim 6 wherein each of the first transmission medium and the second transmission medium comprises a coaxial cable.

8. An amplifier arrangement as claimed in claim 6 wherein each of the first transmission medium and the second transmission medium comprises a strip line.

9. An amplifier arrangement as claimed in claim 6 wherein the first transmission medium comprises a transmission line and the second transmission medium comprises a two dimensional conductive layer.



10 An amplifier arrangement as claimed in any one of claims 1 to 6 wherein the second transmission medium comprises a three-dimensional cavity comprising signal absorbent means.

- 10 11. A method of amplifying a signal comprising the steps of:
- at an input node, dividing the signal into signal parts propagating along respective paths to an output node;
 - amplifying the signal parts in the paths by amplifying means in the paths;
 - 15 - causing a propagating delay in each of the paths to be the same;
 - at the output node, coherently summing the amplified signal parts, to provide an output signal; and
 - incoherently summing noise added by the amplifying means.

- 20 12. A method as claimed in claim 11 wherein the output signal is caused to propagate in predominantly a first direction towards an output, wherein noise is caused to propagate in another direction as well, and wherein the noise propagating in the other direction is absorbed.

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